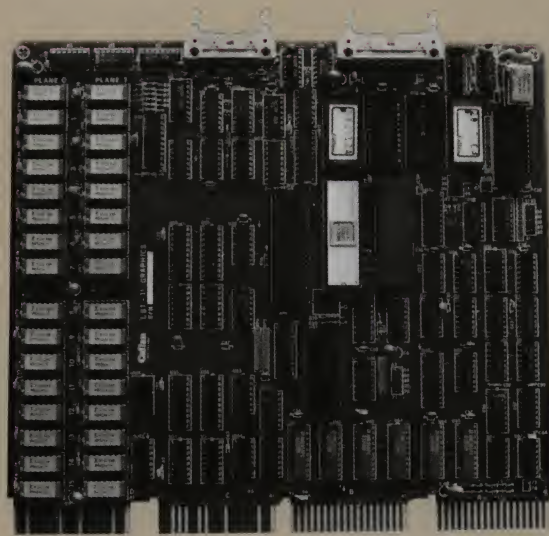# Callan

## GRAPHICS CONTROLLER FOR CD100L & CD100M INTEGRATED WORKSTATIONS

The Callan™ Data Systems GRAPHICS CONTROLLER is a high feature content, high performance controller module providing bit map addressable graphics capability for either the CD100L Q-BUS*— compatible or the CD100M MULTIBUS*— compatible workstations. Both controllers provide Tektronix 4010-compatibility in graphic mode and support two drawing planes of 1024 X 1024 pixels while utilizing the CD100 display window of 752 X 323 pixels. Both graphics controllers provide for hardcopy output to a dot matrix printer through an on-board serial port.

# FEATURE SUMMARY

## DRAWING FUNCTIONS
- Vectors (lines)
- Rectangles
- Area filling (rectangular, definable pattern, 8 × 8 pixels)
- Definable line pattern (solid, dashed, etc.)
- Definable drawing mode (replace, set, clear, complement)
- Point plotting (efficient single pixel change)

## TWO INDEPENDENT DRAWING PLANES
- Each 1024 × 1024 pixels
- Selectable ON/OFF display
- Selectable alternate intensity
- Selectable clear or complement

## DISPLAY WINDOW
- 752 × 323 pixels 60Hz
- 752 × 373 pixels 50Hz
- Horizontal Pan (on any hex pixel boundary)
- Vertical Pan (on any pixel boundary)

## GRAPHICS CHARACTERS
- 128 characters selectable
- 8 × 8 software definable font
- Position at any pixel
- Eight rotational directions
- 1 to 16 drawing zoom factor
- Slanted drawing option
- Drawing modes (set, replace, clear, complement)

## ZOOM AND PAN CAPABILITY
- Display zoom command
- 1 to 8 zoom factor
- Display pan command
- Horizontal and vertical pan

## CURSOR DISPLAY
- "+" Cursor Font (7 × 7 pixels)
- Selectable Blinking, On, Off
- Addressable to any pixel location
- Position Report Command

## TEKTRONIX 4010-COMPATIBLE
- Graphics Mode Input Data
- Auto Scaling Mode: Tek 4010 (1024 × 780) to CD100 (752 × 323)
- Scaling Hardware/Software Selectable (On/Off)
- Cursor Position/Report Commands

## HIGH PERFORMANCE
- 1.6 usec/Pixel Drawing Speed
- Bus Limited Command/Data Transfer Rate (96K baud typical)
- Less than 1 msec Avg. Vector Operation

## SCREEN DUMP/UPDATE
- Total Plane Sequence Command
- Auto Cursor Update to next word
- Read or Write 16 pixels per command
- 13 sec Full Plane Write (65K words)
- Selectable Write Mode (set, clear, replace, complement)

## HARDCOPY
- Print Screen Window
- Dot Matrix Printer (e.g. Datasouth)
- Emulate DEC* "LS:" Serial Printer Device
- Printer Port supports Alphanumeric Output
- Printer On/Off Command
- Baud rate and parity hardware selectable

## CD100 FIELD UPGRADABLE
- Occupies one CD100M or CD100L (quad) bus slot
- Compatible with existing CD100M or CD100L
- 50Hz or 60Hz Refresh Switch selectable

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ANOTHER PRODUCT OF CALLAN ENGINEERING AND MANUFACTURING EXCELLENCE

Subscribing to a business philosophy of engineering and manufacturing excellence, with continuing emphasis on research and development and product marketing, Callan Data Systems is gaining recognition as a proven leader and innovator in the computer industry.

Callan Data Systems products include integrated workstations for use with a variety of 16-bit microcomputers and an integrated line of versatile desktop computers for Distributors, OEM/Systems Integrators and volume end-users in advanced business, scientific, industrial, medical, communications, government and military applications. Callan products are sold throughout the United States, Europe and Australia.

## Callan
**DATA SYSTEMS**